

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A refrigerating system of a reciprocating compressor comprising:

an evaporator for performing a cooling operation as a refrigerant is evaporated;

a reciprocating compressor which includes a driving unit having a stator consisting of an outer stator fixed inside a hermetic container, an inner stator disposed with a certain air gap with an inner circumferential surface of the outer stator, and a winding coil wound at one of the outer stator and the inner stator, to which power is applied from an external source, a mover consisting of magnets disposed at regular intervals between the outer stator and the inner stator and linearly and reciprocally moved when power is applied to the winding coil and a magnet frame, in which the magnets are mounted, for transmitting including:

a driving unit for generating a linear reciprocal motion force, to a compression unit,

a compression unit for performing a compressing operation on a the refrigerant upon receiving the linear reciprocal motion force of the driving unit, and

a lubrication unit for supplying the a lubricant, a sort of a mineral oil, to each motion portion of the driving unit and the compression unit and performing a lubricating operation;

a condenser for changing the refrigerant compressed in the reciprocating compressor to a liquid refrigerant; and

a capillary tube for decompressing the refrigerant discharged from the condenser and transmitting it to the evaporator,

wherein the refrigerant is ~~an a hydrofluorocarbon (HFC) refrigerant, hydrogenated carbon fluoride comprising hydrogen, fluorine and carbon and not including chlorine~~, and the lubricant is an ester-based lubricant, ~~a sort of synthetic fluid~~, with a high moisture absorption and a saturated water amount of 1500~2000 PPM, and

wherein the refrigerant is HFC134a which has a purity of above 99.9%, a molecular formula of CF₃CFH₂, and a molecular weight of 102.

2-4. (Cancelled)

5. (Original) The refrigerating system of claim 1, wherein the magnet is an Nd (neodium) magnet.

6. (Original) The refrigerating system of claim 1, wherein the refrigerant has a zero ozone depletion potential (ODP) and is incombustible.

7. (Cancelled)

8. (Currently Amended) ~~The refrigerating system of claim 1~~ A refrigerating system comprising:

an evaporator for performing a cooling operation as a refrigerant is evaporated;

a reciprocating compressor including:

a driving unit for generating a linear reciprocal motional force,

a compression unit for compressing the refrigerant upon receiving the linear reciprocal motional force of the driving unit, and

a lubrication unit for supplying a lubricant to each motional portion of the driving unit and the compression unit and performing a lubricating operation;

a condenser for changing the refrigerant compressed in the reciprocating compressor to a liquid refrigerant; and

a capillary tube for decompressing the refrigerant discharged from the condenser and transmitting it to the evaporator,

wherein the refrigerant is a hydrofluorocarbon (HFC) refrigerant, and the lubricant is an ester-based lubricant with a high moisture absorption and a saturated water amount of 1500~2000 PPM, and

wherein the lubricant has a density of 0.93~0.99 g/cm³ at a temperature of 15 °C and a total acid number of below 0.01 mgKOH/g.

9. (Currently Amended) The refrigerating system of claim 1A A refrigerating system comprising:

an evaporator for performing a cooling operation as a refrigerant is evaporated;

a reciprocating compressor including:

a driving unit for generating a linear reciprocal motional force,

a compression unit for compressing the refrigerant upon receiving the linear reciprocal motional force of the driving unit, and

a lubrication unit for supplying a lubricant to each motional portion of the driving unit and the compression unit and performing a lubricating operation;

a condenser for changing the refrigerant compressed in the reciprocating compressor to a liquid refrigerant; and

a capillary tube for decompressing the refrigerant discharged from the condenser and transmitting it to the evaporator,

wherein the refrigerant is a hydrofluorocarbon (HFC) refrigerant, and the lubricant is an ester-based lubricant with a high moisture absorption and a saturated water amount of 1500~2000 PPM, and

wherein the lubricant has a flash point of below 240 °C and a kinematic viscosity (cSt) of 10.0~22.5 mm²/s at a temperature of 40 °C.

10. (Currently Amended) The refrigerating system of claim 1, wherein the lubricant contains an additive such as including a stabilizer or antioxidant, etc.

11. (New) The refrigerating system of claim 1, wherein the driving unit includes a stator having an outer stator fixed inside a hermetic container, an inner stator disposed with a certain air gap with an inner circumferential surface of the outer stator, and a winding coil wound at one of the outer stator and the inner stator, to which power is applied from an external source, a mover having magnets disposed at regular intervals between the outer stator and the inner stator and linearly and reciprocally moved when power is applied to the winding coil and a magnet frame, in which the magnets are mounted.

12. (New) The refrigerating system of claim 8, wherein the driving unit includes a stator having an outer stator fixed inside a hermetic container, an inner stator disposed with a certain air gap with an inner circumferential surface of the outer stator, and a winding coil wound at one of the outer stator and the inner stator, to which power is applied from an external source, a mover having magnets disposed at regular intervals between the outer stator and the inner stator and linearly and reciprocally moved when power is applied to the winding coil and a magnet frame, in which the magnets are mounted.

13. (New) The refrigerating system of claim 9, wherein the driving unit includes a stator having an outer stator fixed inside a hermetic container, an inner stator disposed with a certain air gap with an inner circumferential surface of the outer stator, and a winding coil wound at one of the outer stator and the inner stator, to which power is applied from an external source, a mover having magnets disposed at regular intervals between the outer stator and the inner stator and linearly and reciprocally moved when power is applied to the winding coil and a magnet frame, in which the magnets are mounted.